COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
AIR POLLUTION CONTROL DIVISION
TELEPHONE: (303) 692-3150

CONSTRUCTION PERMIT

PERMIT NO: **09WE0900** **Issuance 3**

DATE ISSUED:

ISSUED TO: **NGL Water Solutions DJ LLC**

THE SOURCE TO WHICH THIS PERMIT APPLIES IS DESCRIBED AND LOCATED AS FOLLOWS:

Commercial oil and gas exploration and production (E&P) waste and midstream waste water disposal and solids treatment facility, located at 13159 Weld County Road 39, Platteville, Colorado, and known as the C6 Facility. The facility accepts liquid and solid waste consisting of O&G tank bottoms, drilling muds, produced water and oil for treatment to recover oil and recycle or dispose of the remaining brine via deep well injection pursuant to permit from the Colorado Oil and Gas Conservation Commission (COGCC). The remaining solids are landfilled.

THE SPECIFIC EQUIPMENT OR ACTIVITY SUBJECT TO THIS PERMIT INCLUDES THE FOLLOWING:

Facility Equipment ID	AIRS Point	Description
Combined Oil Tanks	**001**	One 500 bbl Skim tanks, One 400 bbl Heat tanks, One 400 Sales tank, Two 300 bbl Portable tanks. Emissions are uncontrolled.
Loading Rack	**002**	One (1) tank truck load-out rack for crude oil. Loadout of recovered crude from oil/condensate tanks for sale off site.
Wet Scrubber	**003**	One (1) 710 gallon process tank and one (1) 6,100 gallon tank which stores 36% Hydrochloric Acid. Bulk Storage and Recovery tank uses a wet scrubber to control the emission of HCL with 91% efficiency.
Fugitive Emissions	**007**	Fugitive VOC Emissions from equipment leaks.
T4 Off Spec Tanks	**008**	Eight 400 bbl off spec storage tanks.
T6 Tank Bottoms Tanks	**009**	Eight 400 bbl tank bottoms storage tanks.
T7 Oil Tanks	**010**	Six 400 bbl oil storage tanks.

Facility Equipment ID	AIRS Point	Description
P3 Tank Bottoms Reaction	**011**	One 160 bbl tank bottoms reaction tank.
P7 Centrate/Filtrate	**012**	Three 400 bbl tank bottoms centrate/filtrate tanks
Centrifuge	**013**	Centrifuge for processing solids. Process is operated under a vacuum to flash off any residual hydrocarbons. Controlled by thermal oxidizer.
Filter Press	**014**	Solids treating filter press as backup for Centrifuge.
Shaker	**015**	Drilling mud shaker
Heater H-1	**016**	8.4 MMbtu/hr process boiler
Heater H-2	**017**	8.4 MMbtu/hr process boiler
Truck Washout	**018**	Truck washing waste
Oil Loadout L-10	**019**	Oil loadout from solids processing facility
RTO	**020**	Regenerative Thermal Oxidizer as control for the solids processing facility.

THIS PERMIT IS GRANTED SUBJECT TO ALL RULES AND REGULATIONS OF THE COLORADO AIR QUALITY CONTROL COMMISSION AND THE COLORADO AIR POLLUTION PREVENTION AND CONTROL ACT C.R.S. (25-7-101 et seq), TO THOSE GENERAL TERMS AND CONDITIONS INCLUDED IN THIS DOCUMENT AND THE FOLLOWING SPECIFIC TERMS AND CONDITIONS:

REQUIREMENTS TO SELF-CERTIFY FOR FINAL AUTHORIZATION

1. **Points 008-020: YOU MUST notify the Air Pollution Control Division (the Division) no later than fifteen days after commencement of operation, by submitting a Notice of Startup form to the Division.** The Notice of Startup form may be downloaded online at www.cdphe.state.co.us/ap/downloadforms.html. Failure to notify the Division of startup of the permitted source is a violation of Air Quality Control Commission (AQCC) Regulation No. 3, Part B, Section III.G.1 and can result in the revocation of the permit.

2. Within one hundred and eighty days (180) after commencement of operation, compliance with the conditions contained in this permit shall be demonstrated to the Division. It is the permittee's responsibility to self-certify compliance with the conditions.

Failure to demonstrate compliance within 180 days may result in revocation of the permit. (Reference: Regulation No. 3, Part B, II.G.2).

3. This permit shall expire if the owner or operator of the source for which this permit was issued: (i) does not commence construction/modification or operation of this source within 18 months after either, the date of issuance of this construction permit or the date on which such construction or activity was scheduled to commence as set forth in the permit application associated with this permit; (ii) discontinues construction for a period of eighteen months or more; (iii) does not complete construction within a reasonable time of the estimated completion date; or (iv) does not design, install, and begin full-time operation of the RACT controls specified herein on or before 180 days after issuance of this permit. The Division may grant extensions of the deadlines per Regulation No. 3, Part B, III.F.4.b. (Reference: Regulation No. 3, Part B, III.F.4.).

4. The operator shall complete all initial compliance testing and sampling as required in this permit and submit the results to the Division as part of the self-certification process. (Reference: Regulation No. 3, Part B, Section III.E.)

5. The operator shall retain the permit final authorization letter issued by the Division after completion of self-certification, with the most current construction permit. This construction permit alone does not provide final authority for the operation of this source.

EMISSION LIMITATIONS AND RECORDS

6. Emissions of air pollutants shall not exceed the following limitations (as calculated in the Division's preliminary analysis). (Reference: Regulation No. 3, Part B, Section II.A.4)

Annual Limits:

Facility Equipment ID	AIRS Point	Tons per Year			Emission Type
		NOx	VOC	CO	
Combined Oil Tanks	**001**	--	3.7	--	**Point**
Loading Rack	**002**	--	3.7	--	**Point**
Fugitive Emissions	**007**	--	24.2	--	**Fugitive**
T4 Off Spec Tanks	**008**	--	11.9	--	**Point**
T6 Tank Bottoms Tanks	**009**	--	5.0	--	**Point**
T7 Oil Tanks	**010**	--	4.6	--	**Point**
P3 Tank Bottoms Reaction	**011**	--	5.1	--	**Point**
P7 Centrate/Filtrate	**012**	--	4.1	--	**Point**
Centrifuge	**013**	--	3.0	--	**Point**

Filter Press	**014**	--	6.1	--	**Point**
Shaker	**015**	--	1.9	--	**Point**
Heater H-1	**016**	5.6	--	3.0	**Point**
Heater H-2	**017**	5.6	--	3.0	**Point**
Truck Washout	**018**	--	3.3	--	**Point**
Oil Loadout L-10	**019**	--	12.3	--	**Point**
RTO	**020**	2.1	--	9.4	**Point**

See "Notes to Permit Holder #4" for information on emission factors and methods used to calculate limits.

Annual records of the actual emission rates shall be maintained by the owner or operator and made available to the Division for inspection upon request.

7. **Point 007**: The operator shall calculate actual emissions from this emissions point based on representative component counts for the facility with the most recent liquids analysis, as required in the Compliance Testing and Sampling section of this permit. The operator shall maintain records of the results of component counts and sampling events used to calculate actual emissions and the dates that these counts and events were completed. These records shall be provided to the Division upon request.

8. The emission points in the table below shall be operated and maintained with the control equipment as listed in order to reduce emissions to less than or equal to the limits established in this permit (Reference: Regulation No.3, Part B, Section III.E.)

Facility Equipment ID	AIRS Point	Control Device	Pollutants Controlled
Wet Scrubber	**003**	Wet Scrubber	HCL
RTO	**020**	Thermal Oxidizer	VOC, HAPs

PROCESS LIMITATIONS AND RECORDS

9. This source shall be limited to the following maximum processing rates as listed below. Annual records of the actual processing rates shall be maintained by the owner or operator and made available to the Division for inspection upon request. (Reference: Regulation 3, Part B, II.A.4)

Process/Consumption Limits

Facility Equipment ID	AIRS Point	Process Parameter	Annual Limit

Combined Oil Tanks	**001**	Throughput of hydrocarbon liquids through water facility.	87,600 bbl/yr
Loading Rack	**002**	Loading of hydrocarbon liquids.	87,600 bbl/yr
Recycled Water Treatment System	**003**	Usage of Hydrochloric Acid	149,650 gal/yr
T4 Off Spec Tanks	**008**	Throughput of hydrocarbon liquids.	383,250 bbl/yr
T6 Tank Bottoms Tanks	**009**	Throughput of tank bottom fluids.	1,460,000 bbl/yr
T7 Oil Tanks	**010**	Throughput of hydrocarbon liquids.	786,575 bbl/yr
P3 Tank Bottoms Reaction	**011**	Throughput of tank bottom fluids.	1,310,958 bbl/yr
P7 Centrate/Filtrate	**012**	Throughput of centrate/filtrate.	1,460,000 bbl/yr
Centrifuge	**013**	Throughput of oil.	33,036 ,150 gal/yr
Filter Press	**014**	Throughput of fluids.	10,731,000 gal/yr
Shaker	**015**	Throughput of drilling mud	1,277,500 bbl/yr
Heater H-1	**016**	Throughput of natural gas, LNG, or propane	72 MMscf/yr or 804.2Mgal/yr
Heater H-2	**017**	Throughput of natural gas, LNG, or propane	72 MMscf/yr or 804.2Mgal/yr
Truck Washout	**018**	Number of trucks cleaned	15,330 trucks/yr
Oil Loadout L-10	**019**	Throughput of oil	786,575 bbl/yr
RTO	**020**	Throughput of vent streams	1,593 MMscf/yr

10. **Points 002, 019**: The operator shall monitor oil throughput of the loading rack using haul tickets. The operator shall monitor and record the total oil volume out of the facility.

11. The operator shall monitor all solids and truck washout activities using haul tickets, number of trucks washed, or a flow meter to determine the total volume of liquids and solids in to the facility.

STATE AND FEDERAL REGULATORY REQUIREMENTS

12. Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process modification, or adjustment of control

equipment visible emissions shall not exceed 30% opacity for more than six minutes in any sixty consecutive minutes. (Reference: Regulation No. 1, Section II.A.1. & 4.)

13. This source is subject to the odor requirements of Regulation No. 2. (State only enforceable).

14. This source is located in an ozone non-attainment or attainment-maintenance area and is subject to the Reasonably Available Control Technology (RACT) requirements of Regulation Number 3, Part B, III.D.2.a. Condensate loading to truck tanks shall be conducted by submerged fill. (Reference: Regulation 3, Part B, III.E)

15. **Point 007**: Minor sources in designated nonattainment or attainment/maintenance areas that are otherwise not exempt pursuant to Section II.D. of Regulation No. 3, Part B, shall apply Reasonably Available Control Technology (RACT) for the pollutants for which the area is nonattainment or attainment/maintenance (Reference: Regulation No. 3, Part B, III.D.2.a). This requirement to apply RACT shall be satisfied by installing/implementing the following emission controls:

    a. Directed Inspection & Maintenance as described below shall satisfy the requirement to apply RACT.

        i. For leak screening, auditory/visual/olfactory inspection (AVO) will be performed on a quarterly basis.

        ii. For each leak found in the AVO inspection, a gas detector may be used to determine the size of the leak. The gas detector shall be regularly calibrated. Component leaks greater than 10,000 ppm shall be managed in accordance with Item (vi) below, unless it is unfeasible to make the repair without shutting down the affected operation of the facility. Component leaks less than 10,000 ppm shall not require repair. For such component leaks that require a shutdown to be repaired, repair shall occur during the first shutdown of the affected operation after the leak is discovered.

        iii. For repair, valves adjacent to the equipment to be repaired will be closed if practicable, minimizing the volume released.

        iv. Repaired components shall be re-screened to determine if the leak is repaired.

        v. The following records shall be maintained for a period of two years:

            - The name of the site screened via AVO inspection and the name of the inspector.
            - Components evaluated with the gas detector.
            - Repair methods applied.
            - Dates of the AVO screenings, gas detector calibrations, attempted repairs, successful repairs, repair delays, and post-repair screenings.
            - Leaks shall be repaired as soon as practicable, but no later than 15 calendar days after detection, unless it is technically or operationally infeasible to make the repair within 15 calendar days. Records documenting the rationale shall be maintained

if it is technically or operationally infeasible to make the repair within 15 calendar days.

16. The owner or operator shall follow loading procedures that minimize the leakage of VOCs to the atmosphere including, but not limited to (Reference: Regulation 3, Part B, III.E):

    a) Hoses, couplings, and valves shall be maintained to prevent dripping, leaking, or other liquid or vapor loss during loading and unloading.

    b) All compartment hatches (including thief hatches) shall be closed and latched at all times when loading operations are not active, except for periods of maintenance, gauging, or safety of personnel and equipment.

    c) The owner or operator shall inspect loading equipment and operations onsite at the time of inspections to monitor compliance with Condition 16 (a)) and (b)) above. The inspections shall occur at least monthly. Each inspection shall be documented in a log available to the Division on request.

17. All hydrocarbon liquid loading operations, regardless of size, shall be designed, operated and maintained so as to minimize leakage of volatile organic compounds to the atmosphere to the maximum extent practicable.

18. This source is required to apply Reasonably Available Control Technology (RACT) for volatile organic compounds (VOC). This source shall meet the requirements to apply RACT and reduce VOC emissions by preventing splash unloading of wastewater. The RACT requirements are identified in full below. (Reference: Regulation No. 3, Part B, III.D.2.a.)

    a) Unloading of wastewater shall be conducted by submerged fill.

    b) Loading of condensate (Point 002) shall be conducted by submerged fill.

    c) Leakage of VOCs to the atmosphere must be minimized as follows:

    - All access points, hatches and seals shall be maintained and operated to minimize vapor loss except when opened, actuated, or used for maintenance activities.
    - Any opening, actuation or use of receiving tank access points or hatches shall be limited so as to minimize vapor loss.
    - Seals shall be inspected for integrity annually and replaced as necessary. Tank access hatches, and thief hatch covers shall be properly seated.
    - Annual inspections of seals shall be documented with an indication of status, a description of any problems found, and their resolution.

OPERATING & MAINTENANCE REQUIREMENTS

19. Upon startup of these points, the owner or operator shall follow the most recent operating and maintenance (O&M) plan and record keeping format approved by the Division, in order to demonstrate compliance on an ongoing basis with the requirements of this permit. Revisions to your O&M plan are subject to Division approval prior to implementation. (Reference: Regulation No. 3, Part B, Section III.G.7.)

20. The owner or operator of a loadout at which a control device is used to control emissions shall:

a) Install and operate the vapor collection and return equipment to collect vapors during loading of tank compartments of outbound transport trucks and return these vapors to the stationary source storage tanks or to the control device header.

b) Include devices to prevent the release of vapor from vapor recovery hoses not in use.

c) Install dry-break loading couplings to prevent hydrocarbon liquid loss during uncoupling from vehicles.

d) Use operating procedures to ensure that hydrocarbon liquid cannot be transferred unless the vapor collection equipment is in use.

e) Operate all recovery and disposal equipment at a back pressure less than the pressure relief valve setting of transport vehicles.

f) Inspect thief hatch seals annually for integrity and replace as necessary. Thief hatch covers shall be weighted and properly seated.

g) Inspect pressure relief devices (PRD) annually for proper operation and replace as necessary. PRDs shall be set to release at a pressure that will ensure flashing, working and breathing losses are routed to the control device under normal operating conditions.

h) Document annual inspections of thief hatch seals and PRD with an indication of status, a description of any problems found, and their resolution.

COMPLIANCE TESTING AND SAMPLING

Initial Testing Requirements

21. **Point 007:** Within one hundred and eighty days (180) after issuance of this permit, the operator shall complete a hard count of components at the source and establish the number of components that are operated in “heavy liquid service”, “light liquid service”, "water/oil service" and “gas service”. The operator shall submit the results to the Division as part of the self-certification process to ensure compliance with emissions limits.

Periodic Testing Requirements

22. On an annual basis, the owner or operator shall complete an extended gas analysis of gas samples that are representative of volatile organic compounds (VOC) and hazardous air pollutants (HAP) that are released through the centrifuge vent stream (Point 013) and are sent to the RTO (Point 020). These extended gas analyses shall be

used in the compliance demonstration as required in the Emission Limits and Records section of this permit.

ADDITIONAL REQUIREMENTS:

23. All previous versions of this permit are cancelled upon issuance of this permit.

24. Federal regulatory program requirements (i.e. PSD, NANSR) shall apply to this source at any such time that this source becomes major solely by virtue of a relaxation in any permit condition. Any relaxation that increases the potential to emit above the applicable Federal program threshold will require a full review of the source as though construction had not yet commenced on the source. The source shall not exceed the Federal program threshold until a permit is granted. (Regulation No. 3 Parts C and D).

25. A revised Air Pollutant Emission Notice (APEN) shall be filed: (Reference: Regulation No. 3, Part A, II.C)

    a) Annually whenever a significant increase in emissions occurs as follows:

       For any criteria pollutant:

       For sources emitting **less than 100 tons per year**, a change in actual emissions of five (5) tons per year or more, above the level reported on the last APEN; or

       For any non-criteria reportable pollutant:

       If the emissions increase by 50% or five (5) tons per year, whichever is less, above the level reported on the last APEN submitted to the Division.

    b) Whenever there is a change in the owner or operator of any facility, process, or activity; or

    c) Whenever new control equipment is installed, or whenever a different type of control equipment replaces an existing type of control equipment; or

    d) Whenever a permit limitation must be modified; or

    e) No later than 30 days before the existing APEN expires.

GENERAL TERMS AND CONDITIONS:

26. This permit and any attachments must be retained and made available for inspection upon request. The permit may be reissued to a new owner by the Division as provided in Regulation No. 3, Part B, Section II.B upon a request for transfer of ownership and the submittal of a revised Air Pollution Emission Notice (APEN) and the required fee.

27. If this permit specifically states that final authorization has been granted, then the remainder of this condition is not applicable. Otherwise, the issuance of this construction permit does not provide "final" authority for this activity or operation of this source. Final authorization of the permit must be secured from the Division in writing in accordance with the provisions of 25-7-114.5(12)(a) C.R.S. and Regulation No. 3, Part B, Section III.G. Final authorization cannot be granted until the operation or activity commences and has been verified by the Division as conforming in all respects with the conditions of the permit. Once self-certification of all points has been reviewed and approved by the Division, it will provide written documentation of such final authorization**. Details for obtaining final authorization to operate are located in the Requirements to Self-Certify for Final Authorization section of this permit.**

28. This permit is issued in reliance upon the accuracy and completeness of information supplied by the applicant and is conditioned upon conduct of the activity, or construction, installation and operation of the source, in accordance with this information and with representations made by the applicant or applicant's agents. It is valid only for the equipment and operations or activity specifically identified on the permit.

29. Unless specifically stated otherwise, the general and specific conditions contained in this permit have been determined by the Division to be necessary to assure compliance with the provisions of Section 25-7-114.5(7)(a), C.R.S.

30. Each and every condition of this permit is a material part hereof and is not severable. Any challenge to or appeal of a condition hereof shall constitute a rejection of the entire permit and upon such occurrence, this permit shall be deemed denied *ab initio*. This permit may be revoked at any time prior to self-certification and final authorization by the Division on grounds set forth in the Colorado Air Quality Control Act and regulations of the AQCC, including failure to meet any express term or condition of the permit. If the Division denies a permit, conditions imposed upon a permit are contested by the applicant, or the Division revokes a permit, the applicant or owner or operator of a source may request a hearing before the AQCC for review of the Division's action.

31. Section 25-7-114.7(2)(a), C.R.S. requires that all sources required to file an APEN must **pay an annual fee** to cover the costs of inspections and administration. If a source or activity is to be discontinued, the owner must notify the Division in writing requesting a cancellation of the permit. Upon notification, annual fee billing will terminate.

32. Violation of the terms of a permit or of the provisions of the Colorado Air Pollution Prevention and Control Act or the regulations of the AQCC may result in administrative, civil or criminal enforcement actions under Sections 25-7-115 (enforcement), -121 (injunctions), -122 (civil penalties), -122.1 (criminal penalties), C.R.S.

By: Stuart Siffring

Stuart Siffring
Permit Engineer

Permit History

Issuance	Date	Description
Issuance 3	This issuance	Modification to add solids treating facility. Add points 008-020. Transfer of Ownership to NGL Water Solutions DJ LLC.
Issuance 2	05/19/2014	Transfer of Ownership to High Sierra Water Services LLC. Addition of point 003, an enhanced oil recovery unit which is controlled by a wet scrubber with 91% efficiency. Addition of point 007, Fugitive emissions.

Initial Approval	04/04/2012	Issued to Conquest Oil.

Notes to Permit Holder:

1) The permit holder is required to pay fees for the processing time for this permit. An invoice for these fees will be issued after the permit is issued. The permit holder shall pay the invoice within 30 days of receipt of the invoice. Failure to pay the invoice will result in revocation of this permit (Reference: Regulation No. 3, Part A, Section VI.B.)

2) The production or raw material processing limits and emission limits contained in this permit are based on the consumption rates requested in the permit application. These limits may be revised upon request of the permittee providing there is no exceedance of any specific emission control regulation or any ambient air quality standard. A revised air pollution emission notice (APEN) and application form must be submitted with a request for a permit revision.

3) This source is subject to the Common Provisions Regulation Part II, Subpart E, Affirmative Defense Provision for Excess Emissions During Malfunctions. The permittee shall notify the Division of any malfunction condition which causes a violation of any emission limit or limits stated in this permit as soon as possible, but no later than noon of the next working day, followed by written notice to the Division addressing all of the criteria set forth in Part II.E.1. of the Common Provisions Regulation. See: http://www.cdphe.state.co.us/regulations/airregs/100102aqcccommonprovisionsreg.pdf.

4) The following emissions of non-criteria reportable air pollutants are estimated based upon the process limits as indicated in this permit. This information is listed to inform the operator of the Division's analysis of the specific compounds emitted if the source(s) operate at the permitted limitations.

AIRS Point	Pollutant	CAS #	Uncontrolled Emission Rate (lb/yr)	Are the emissions reportable?	Controlled Emission Rate (lb/yr)
001	Toluene	108883	272	Yes	272
	n-Hexane	110543	1156	Yes	1156
002	Toluene	108883	269	Yes	269
	n-Hexane	110543	1152	Yes	1152
003	Hydrochloric Acid	7647010	1325	Yes	89
007	Benzene	71432	256	Yes	256
	Toluene	108883	1580	Yes	1580
	Xylene	1330207	2061	Yes	2061
	n-Hexane	110543	1519	Yes	1519
008	n-Hexane	110543	379	Yes	379
009	Toluene	108883	365	Yes	37
	n-Hexane	110543	1564	Yes	156
010	Toluene	108883	340	Yes	34
	n-Hexane	110543	1455	Yes	146
011	Toluene	108883	373	Yes	37
	n-Hexane	110543	1598	Yes	160
012	Toluene	108883	304	Yes	30
	n-Hexane	110543	1301	Yes	130

013	n-Hexane	110543	931	Yes	93
018	n-Hexane	110543	1016	Yes	1016
019	n-Hexane	110543	1049	Yes	1049

5) The emission levels contained in this permit are based on the following emission factors. Actual emissions shall be calculated using the site specific emission factors listed here and actual process rates of condensate throughput.

Point 001:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/bbl oil)	Controlled Emission Factors (lb/bbl oil)	Source
	VOC	0.000012	---	EPA Tanks 4.0.9d
108883	Toluene	0.000000439	---	EPA Tanks 4.0.9d
110543	n-Hexane	0.00000187	---	EPA Tanks 4.0.9d

Point 002:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/1000 gal oil)	Controlled Emission Factors (lb/1000 gal oil)	Source
	VOC	2.01	---	AP-42
108883	Toluene	0.073	---	EPA Tanks 4.0.9d
110543	n-Hexane	0.313	---	EPA Tanks 4.0.9d

The uncontrolled VOC emission factor was calculated using AP-42, Chapter 5.2, Equation 1 (version 1/95) using the following values:

S = 0.6 (Submerged loading: dedicated normal service)

P (true vapor pressure) = 2.8 psia

M (vapor molecular weight) = 50 lb/lb-mol

T (temperature of liquid loaded) = 60 °F

Point 003:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/ton HCL used)	Controlled Emission Factors (lb/ton HCL used)	Source
7647010	Hydrochloric Acid (36%)	1.8	0.15	AP-42 Table 8.6-1

Note: To convert HCL from gallons to tons use specific gravity of 9.8 lb/gallon. The controlled emissions factors for point 003 are based on the wet scrubber control efficiency of 92%.

Point 007:

Component	Gas Service	Heavy Oil	Light Oil	Water/Oil Service
Connectors	939	34	916	1292

Flanges	373	--	--	810
Open-ended Lines	66	6	2	68
Pump Seals	--	--	--	--
Valves	31	6	157	364
Other*	102	--	32	24
VOC Content (wt. %)	100	100	100	100
Benzene Content (wt. %)	0.53	0.53	0.53	0.53
Toluene Content (wt. %)	3.27	3.27	3.27	3.27
Ethylbenzene ((wt. %)	0.25	0.25	0.25	0.25
Xylenes Content (wt. %)	4.27	4.27	4.27	4.27
n-hexane Content (wt. %)	3.14	3.14	3.14	3.14

*Other equipment type includes compressors, pressure relief valves, relief valves, diaphragms, drains, dump arms, hatches, instrument meters, polish rods and vents

TOC Emission Factors (kg/hr-component):

Component	Gas Service	Heavy Oil	Light Oil	Water/Oil Service
Connectors	2.0E-04	7.5E-06	2.1E-04	1.1E-04
Flanges	3.9E-04	3.9E-07	1.1E-04	2.9E-06
Open-ended Lines	2.0E-03	1.4E-04	1.4E-03	2.5E-04
Pump Seals	2.4E-03	NA	1.3E-02	2.4E-05
Valves	4.5E-03	8.4E-06	2.5E-03	9.8E-05
Other	8.8E-03	3.2E-05	7.5E-03	1.4E-02

Source: EPA-453/R95-017

Compliance with emissions limits in this permit will be demonstrated by using the TOC emission factors listed in the table above with representative component counts, multiplied by the VOC content from the most recent gas analysis.

Point 008:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/bbl oil)	Controlled Emission Factors (lb/bbl oil)	Source
	VOC	0.0622	---	EPA Tanks 4.0.9d
110543	n-Hexane	0.00000187	---	EPA Tanks 4.0.9d

Point 009:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/bbl oil)	Controlled Emission Factors (lb/bbl oil)	Source
	VOC	0.0679	0.00679	EPA Tanks 4.0.9d
108883	Toluene	0.00025	0.000025	EPA Tanks 4.0.9d
110543	n-Hexane	0.00107	0.000107	EPA Tanks 4.0.9d

Note: The controlled emissions factors for the above point are based on the RTO control efficiency of 90%

Point 010:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/bbl oil)	Controlled Emission Factors (lb/bbl oil)	Source
	VOC	0.117	0.0117	EPA Tanks 4.0.9d
108883	Toluene	0.000432	0.0000432	EPA Tanks 4.0.9d
110543	n-Hexane	0.00185	0.000185	EPA Tanks 4.0.9d

Note: The controlled emissions factors for the above point are based on the RTO control efficiency of 90%.

Point 011:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/bbl oil)	Controlled Emission Factors (lb/bbl oil)	Source
	VOC	0.0773	0.00773	EPA Tanks 4.0.9d
108883	Toluene	0.000284	0.0000284	EPA Tanks 4.0.9d
110543	n-Hexane	0.00122	0.000122	EPA Tanks 4.0.9d

Note: The controlled emissions factors for the above point are based on the RTO control efficiency of 90%.

Point 012:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/bbl oil)	Controlled Emission Factors (lb/bbl oil)	Source
	VOC	0.0565	0.00565	EPA Tanks 4.0.9d
108883	Toluene	0.000208	0.0000208	EPA Tanks 4.0.9d
110543	n-Hexane	0.000891	0.0000891	EPA Tanks 4.0.9d

Note: The controlled emissions factors for the above point are based on the RTO control efficiency of 90%.

Point 013:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/10000 bbl)	Controlled Emission Factors (lb/10000 bbl)	Source
	VOC	50	5.0	AP-42 5.1-1

Note: The controlled emissions factors for the above point are based on the RTO control efficiency of 90%.

Point 014:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/1000 gal)	Controlled Emission Factors (lb/1000 gal)	Source
	VOC	0.226	---	AP-42 5.1-1

Point 015:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/bbl)	Controlled Emission Factors (lb/bbl)	Source
	VOC	0.00297	---	AP-42 5.1-1

Point 016 and 017:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/mmbtu)	Controlled Emission Factors (lb/mmbtu)	Source
	NOx	0.000153	---	AP-42
	CO	0.0824	---	AP-42

Point 018:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/truck washed)	Controlled Emission Factors (lb/truck washed)	Source
	VOC	0.2838	---	AP-42 4.8-1,2

Point 019:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/1000 gal oil)	Controlled Emission Factors (lb/1000 gal oil)	Source
	VOC	2.01	0.744	AP-42
110543	n-Hexane	0.032	0.01184	EPA Tanks 4.0.9d

Note: The controlled emissions factors for the above point are based on the RTO control efficiency of 90% and a collection efficiency of 70% for a total destruction efficiency of 63% (0.9*0.7).

The uncontrolled VOC emission factor was calculated using AP-42, Chapter 5.2, Equation 1 (version 1/95) using the following values:

S = 0.6 (Submerged loading: dedicated normal service)

P (true vapor pressure) = 2.8 psia

M (vapor molecular weight) = 50 lb/lb-mol

T (temperature of liquid loaded) = 60 °F

Point 020:

CAS #	Pollutant	Uncontrolled Emission Factors (lb/mmbtu)	Controlled Emission Factors (lb/mmbtu)	Source

CAS #	Pollutant	Uncontrolled Emission Factors (lb/mmbtu)	Controlled Emission Factors (lb/mmbtu)	Source
	NOx	0.000153	---	AP-42
	CO	0.370	---	AP-42

6) In accordance with C.R.S. 25-7-114.1, each Air Pollutant Emission Notice (APEN) associated with this permit is valid for a term of five years from the date it was received by the Division. A revised APEN shall be submitted no later than 30 days before the five-year term expires. Please refer to the most recent annual fee invoice to determine the APEN expiration date for each emissions point associated with this permit. For any questions regarding a specific expiration date call the Division at (303)-692-3150.

7) This Facility is classified as follows:

Applicable Requirement	Status
Operating Permit	Synthetic Minor Source
NANSR	Synthetic Minor Source

8) Full text of the Title 40, Protection of Environment Electronic Code of Federal Regulations can be found at the website listed below:

http://ecfr.gpoaccess.gov/

Part 60: Standards of Performance for New Stationary Sources		
NSPS	60.1-End	Subpart A – Subpart KKKK
NSPS	Part 60, Appendixes	Appendix A – Appendix I
Part 63: National Emission Standards for Hazardous Air Pollutants for Source Categories		
MACT	63.1-63.599	Subpart A – Subpart Z
MACT	63.600-63.1199	Subpart AA – Subpart DDD
MACT	63.1200-63.1439	Subpart EEE – Subpart PPP
MACT	63.1440-63.6175	Subpart QQQ – Subpart YYYY
MACT	63.6580-63.8830	Subpart ZZZZ – Subpart MMMMM
MACT	63.8980-End	Subpart NNNNN – Subpart XXXXXX

9) An Oil and Gas Industry Construction Permit Self-Certification Form is included with this permit packet. Please use this form to complete the self-certification requirements as specified in the permit conditions. Further guidance on self-certification can be found on our website at:

http://www.cdphe.state.co.us/ap/oilgaspermitting.html